SOP-34310115-KM-I1

Rev. 1.1

Phase Locked Oscillator, 34 GHz, +15 dBm, Internally Referenced

Description:

Model SOP-34310115-KM-I1 is a 34 GHz phase locked oscillator that utilizes state-of-the-art planar circuits, a high performance three terminal devices and dielectric resonator technology to generate high-quality microwave signal. The signal is phase locked to a high quality, 100 MHz internally referenced crystal oscillator to deliver superior phase noise performance. The oscillator delivers a typical output power of +15 dBm and has a nominal harmonic of -25 dBc and spurious of -75 dBc with a typical phase noise of -100 dBc/Hz at 10 kHz offset. The oscillator has a built-in voltage regulator to further improve the signal quality and provide the protection of over voltage operation.

Features:

- High Output Power
- Low Phase Noise
- Low Harmonic Components

Applications:

- Radar Systems
- Communication Links
- Transmitters/Receivers

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency		34 GHz	
Output Power		+15 dBm	
Phase Noise (Internally Referenced) @ 10 kHz		-100 dBc/Hz	
Harmonic		-25 dBc	
Spurious		-75 dBc	
Phase Locked Indicator (Lock)		TTL "High"	
Phase Voltage (VT)	+2 V_{DC}		+10 V_{DC}
DC Voltage Supply		+12 V_{DC}/480 mA	
Frequency Stability (Internally Referenced)		±5 ppm	
Specification Temperature		+25 ˚C	
Operating Temperature	0 ˚C		+50 ˚C

Mechanical Specifications:

Item	Specification
RF Output	K(M) Connector
REF Output	K(M) Connector
DC Bias, Lock and VT Ports	Feedthru Pins
Case Material	Aluminum
Finish	Nickel Plated
Weight	4 Oz
Size	2.25" (W) 2.25" (L) X 1.25" (H)
Outline	OP-DC-E3

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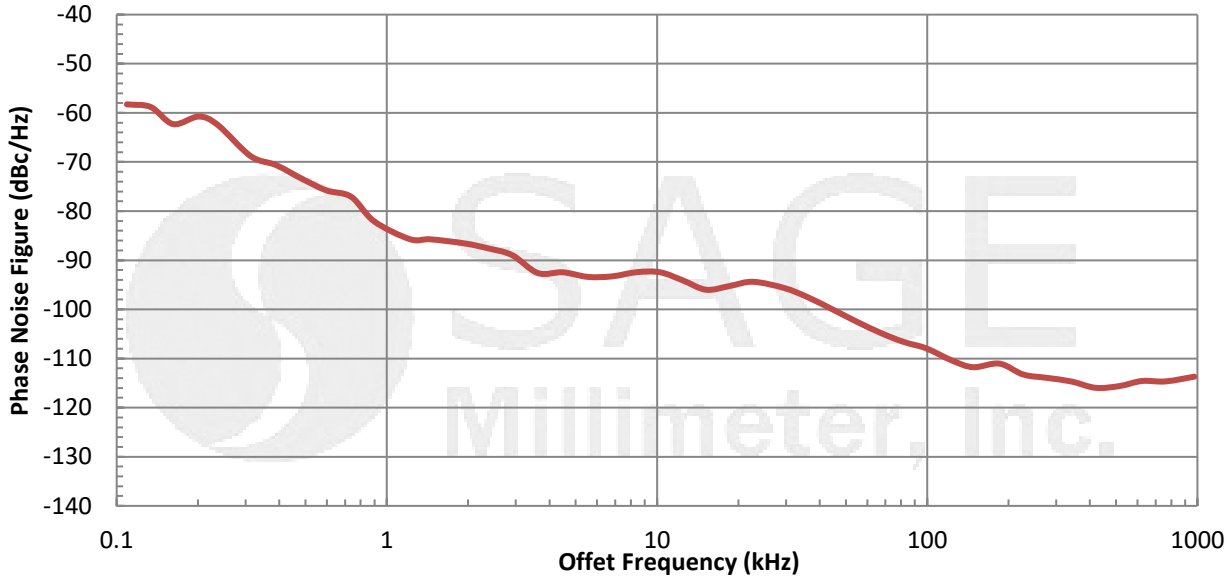
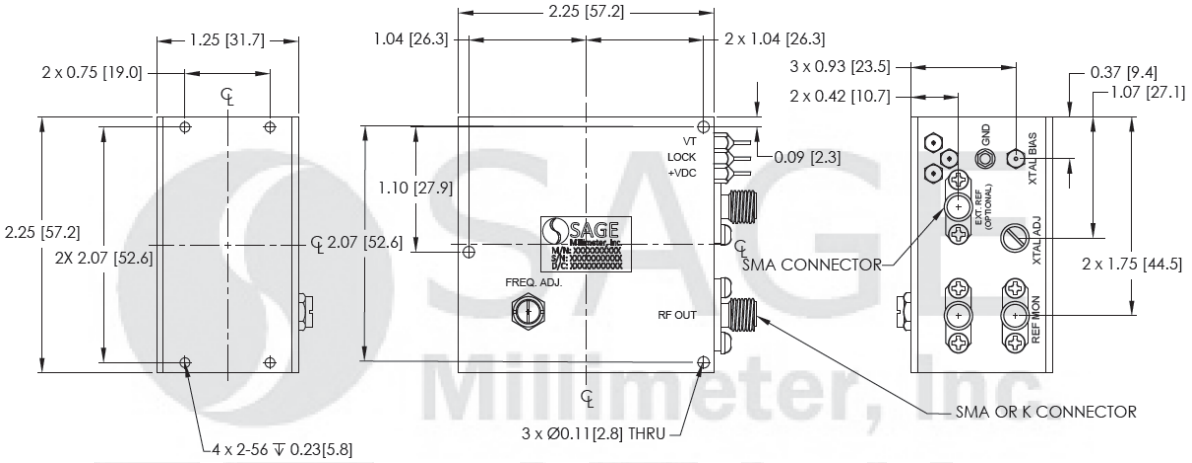
Typical Phase Noise Figure vs. Frequency



Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



Note:

- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.
- Other mechanical configurations are available under different model number.

Caution:

- Exceeding absolute maximum ratings shown will damage the device.
- The device is static sensitive. Always follow ESD rules when working with the device.
- The case temperature of the device shall never exceed **+50 ˚C**. Use additional heatsink or fan if necessary.
- Proper torque, 8.0 ± 0.4 inch-pounds (0.90 ± 0.02 Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**

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